

This Listing of Claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims:

1. (Currently amended) A method of image compression and decompression for an imaging technique performed by an imaging device, comprising:
 - providing a span of interest for an acquired image sequence wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence that includes analytically relevant information in the acquired image sequence;
 - selecting at least one frame in the acquired image sequence in the span of interest, the at least one frame including at least a single image obtained from the imaging device for the imaging technique being used;
 - applying lossless compression using an integer wavelet transform to the at least one frame and obtaining therefrom at least one compressed image;
 - applying decompression to the at least one compressed image and obtaining therefrom at least one analytically relevant image and
 - displaying the at least one analytically relevant image, thereby displaying the analytically relevant information.
2. (Previously presented) The method of claim 1, wherein the at least one frame comprises a plurality of frames in time sequence.
3. (Previously presented) The method of claim 1, wherein the at least one frame comprises a plurality of frames in space sequence.
4. (Previously presented) The method of claim 1 further comprising archiving the at least one analytically relevant image.
5. (Previously presented) The method of claim 1, wherein selecting the at least one frame in the acquired image sequence comprises using a user select option.
6. (Original) The method of claim 5, wherein the user select option comprises segmenting an identifiable anatomy of a patient.

7. (Previously presented) The method of claim 5, wherein the user select option comprises manually marking at least one frame of interest.

8. (Original) The method of claim 5, wherein the user select option comprises sketch-gripping an image boundary.

9-11. (Canceled)

12. (Currently amended) A method of image compression and decompression for images obtained by an imaging device, comprising:

- providing a span of interest for an acquired image sequence received from the imaging device wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence that includes analytically relevant information in the acquired image sequence and excludes other Information in the acquired image sequence;

- selecting at least one frame in the acquired image sequence in the span of interest, the at least one frame including at least a single image obtained by the imaging device;

- applying lossless compression using an integer wavelet transform to the at least one frame and obtaining therefrom at least one compressed image;

- applying decompression to the at least one compressed image and obtaining therefrom at least one analytically relevant image; and

- displaying the at least one analytically relevant image, thereby displaying the analytically relevant information.

13. (Previously presented) The method of claim 12, wherein the imaging device comprises a medical imaging device selected from the group consisting of: a magnetic resonance imaging system, a computed tomography system, an x ray system, an x ray angiogram system and an ultrasound system.

14. (Currently amended) A method of image compression and decompression for images obtained by an x ray device, comprising:

providing a span of interest for the images obtained by the x ray device, wherein the span of interest defines a time sequence and a space sequence that includes analytically relevant information in the images and excludes other information in the images, wherein the space sequence is defined by circular zone in a collimator ring;

selecting at least one frame of interest in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information, the at least one frame of interest including at least a single image, having a distribution of pixels, obtained by the x-ray device;

applying lossless compression using an integer wavelet transform to the distribution of pixels in the at least one frame of interest and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

15. (Currently amended) A method of image compression and decompression for images obtained by an x ray angiogram device, comprising:

providing a span of interest for the images obtained by the x ray angiogram device, wherein the span of interest defines a plurality of frames in a time sequence between two time instances that includes analytically relevant information in the images, the plurality of frames including a plurality of single images obtained from the x-ray angiogram device;

applying lossless compression using an integer wavelet transform to the distribution of pixels in the plurality of frames and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence.

16. (Previously presented) The method of claim 15, wherein the two time instances comprise a first time instance when a dye appears and second time instance when the dye disappears.

17. (Currently amended) A method of image compression and decompression for images obtained by an MRI device, comprising:

providing a span of interest for the images obtained by the MRI device, wherein the span of interest defines a plurality of frames in a time sequence between two time instances that includes analytically relevant information in the images, the plurality of frames including a plurality of single images obtained from the MRI device;

applying lossless compression using an integer wavelet transform to the distribution of pixels in the plurality of frames and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence.

18. (Previously presented) The method of claim 17, wherein the plurality of frames comprises a plurality of frames in a space sequence.

19. (Previously presented) The method of claim 17, further comprising using automatic edge detection techniques for selecting the plurality of frames.

20. (Currently amended) A method of image compression and decompression for images obtained by an ultrasound device, comprising:

providing a span of interest for the images obtained by the ultrasound device, wherein the span of interest defines at least one frame in a time sequence and a space sequence, the at least one frame including at least a single image obtained by the ultrasound device;

applying lossless compression using an integer wavelet transform to the distribution of pixels in the least one frame and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence.

21. (Previously presented) The method of claim 20, wherein the at least one frame comprises a fan shaped image selected using automatic means.

22. (Previously presented) The method of claim 20, wherein the at least one frame comprises a fan shaped image selected using manual means.

23. (Canceled)

24. (Previously presented) An imaging system comprising:

- a span of interest definer block for selecting a plurality of frames from an image sequence, the plurality of frames including a plurality of single images obtained for the imaging technique being used by the imaging system;

- an image compression block for compressing a distribution of pixels in the plurality of frames using an integer wavelet transform;

- an image decompression block for decompressing and reconstructing the compressed plurality of frames; and

- a display for displaying the reconstructed image sequence.

25. (Previously presented) The imaging system of claim 24, wherein the plurality of frames comprises frames in a time sequence.

26. (Previously presented) The imaging system of claim 24, wherein the plurality of frames comprises frames in a space sequence.

27-30. (Canceled)

31. (Currently amended) A computer program encoded on a computer-readable medium comprising an algorithm for:

- selecting at least one frame in a span of interest for an acquired image sequence, wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence, the at least one frame including at least a single image for the imaging technique being used to acquire the image sequence;

- applying lossless compression using an integer wavelet transform to the distribution of pixels in the at least one frame and obtaining therefrom a compressed image sequence;

- applying decompression to the compressed image sequence and obtaining therefrom at least one analytically relevant image; and

- displaying the analytically relevant image sequence.

32. (Currently amended) A method of image compression and decompression in an x ray angiogram device, wherein the span of interest defines a time sequence and a space sequence in the acquired image sequence, that includes analytically relevant information in the acquired image sequence and excludes other information in the acquired image sequence, wherein the space sequence is defined by a circular zone in a collimator ring, and wherein the time sequence is based on a dye that is injected and tracked within a subject and increases visibility of blood vessels against surrounding tissues in the acquired image sequence;

selecting a portion of the acquired image sequence in the span of interest, thereby selecting the analytically relevant information and sacrificing the other information;

applying lossless compression using an integer wavelet transform to the distribution of pixels in the portion of the acquired image sequence and obtaining therefrom a compressed image sequence;

applying decompression to the compressed image sequence and obtaining therefrom an analytically relevant image sequence; and

displaying the analytically relevant image sequence, thereby displaying the analytically relevant information without displaying the other information.

33. (Previously presented) The method of claim 32, wherein the time sequence begins when the dye appears in the acquired image sequence and the time sequence ends when the dye disappears in the acquired image sequence.

34. (Canceled)

35. (Previously presented) The method of claim 32, wherein the space sequence is defined by a binary mask.

36. (Previously presented) The method of claim 32, wherein the portion of the acquired image sequence is confined within a time and space corresponding to a predefined portion of the acquired image sequence.

37. (Previously presented) The method of claim 32, wherein the portion of the acquired image sequence is provided by frames of interest, the acquired image sequence is provided by total frames, and a ratio of the frames of Interest to the total frames is in the range of 46.83 to 76.47 percent.

38. (Previously presented) The method of claim 32, wherein a compression ratio for the portion of the acquired image sequence has an improvement over a compression ratio for the acquired image sequence in the range of 13.15 to 16.96 percent